

OPERATIONAL CASE STUDY NOVEMBER 2016 EXAM ANSWERS

Variant 5

The November 2016 exam can be viewed at

<https://connect.cimaglobal.com/resources/november-2016-operational-case-study-variant-5>

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SECTION 1

PRICE OF THE NEW ENERGY STORAGE SYSTEM

Other Decision Criterion

Maximin criterion

Under the maximin criteria we would select the alternative that maximises the minimum pay-off achievable under each alternative. This is where a pessimistic approach is taken.

The minimum pay-offs are as follows:

- If we choose a selling price of F\$6,000, F\$2,750,000
- If we choose a selling price of F\$6,250, F\$3,000,000
- If we choose a selling price of F\$6,500, F\$2,500,000

We would therefore choose a selling price of F\$6,250 as this gives us the maximum contribution if the worst outcome were to happen.

Minimax regret criterion

Under this criterion the alternative that minimises the maximum regret under each alternative is selected. This is generally used where we want to avoid making a bad decision. 'Regret' refers to the opportunity loss through having made the wrong decision. This is also where a pessimistic approach is taken to the decision.

We can produce a regret matrix which shows the regret depending on the customer reaction to the product and which selling price we choose. For example, if the customer reaction is strong we would have no regret if we had chosen a selling price of F\$6,000. The regret for each of the other two selling prices would be the difference between a contribution of \$4,500,000 and the contribution for each selling price.

Having calculated the regret for each different customer reaction, we can then establish the maximum regret for each selling price. We then choose the selling price with the minimum of the maximum regrets.

Expected value

If we wish to base the decision on expected value we would need to first of all determine the probabilities for each of the customer reactions. Andreas should be able to use his experience of the market to arrive at the probabilities. The probabilities will however be subjective since they will be based purely on Andreas' judgement.

Expected value is calculated by weighting each of the possible outcomes by their associated probability. The expected value is therefore the weighted average of the possible outcomes based on estimates of their probability.

Expected value has a number of limitations as follows:

- (i) The probabilities used are usually very subjective. As discussed above they rely on Andreas' judgement of the market.
- (ii) The expected value is merely a weighted average if the decision is repeated several times. In business there are few decisions that would be repeated many times. In this case, the launch of the new solar energy storage system and the price to charge is a major one-off decision so reliance solely on expected value would be unwise.
- (iii) The expected value gives no indication of the dispersion of possible outcomes around the expected value, that is, the risk. For example, a price of F\$6,250 has a relatively small range of possible outcomes whereas a price of F\$6,000 has a much wider dispersion. Expected value takes a risk-neutral approach to decision making.
- (iv) The expected value may not correspond to any of the actual possible outcomes as it is an average.

SECTION 2

BUDGETING

Budgetary control / responsibility accounting

Budgetary control is about comparing actual performance against budgeted performance and taking corrective action where necessary.

It focuses on the costs for a department, business unit or in this case, a product. The responsibility for the costs will be allocated to an individual manager. If there are any differences between actual and budgeted performance we would expect the manager responsible to act either to correct the budget or bring the cost under control.

For the system of responsibility accounting to be effective, the managers' performance will have to be evaluated only on the costs that they can control. Using our standard costing system we are able to split variances from budget into those that relate to efficiency and those that relate to price. For example, we can split the total material cost variance into a material usage variance and a material price variance. The production manager would be responsible for the material usage variance whilst the purchasing manager would be responsible for the material price variance.

Flexible budgeting

A fixed budget, which is what we have used in the past, remains unchanged regardless of the actual level of activity. A flexible budget shows the same information but for a number of different levels of activity. Flexible budgeting can be used for both planning and control purposes.

In drawing up the budgets we have assumed that the customers' reaction will be moderate but we could have produced budgets for both strong and weak customer reaction.

In this situation with the launch of a new product, there is the considerable uncertainty and it is likely the actual activity level will differ from the budgeted level. If our costs were mainly fixed, a change in level of activity would not cause many problems for cost comparison with a fixed budget. However, a significant proportion of our costs are of a variable nature and therefore it is difficult to control expenditure satisfactorily using a fixed budget.

A flexible budget will help us to make more valid comparisons. It would be unfair to evaluate managers' performance against a fixed budget since we would expect changes in activity levels to result in a change in variable costs. A flexible budget is designed to show the allowed expenditure for the actual numbers of units produced and sold. Comparing a flexed budget with the actual expenditure will enable us to distinguish genuine efficiencies and inefficiencies.

The use of flexible budgeting therefore is linked with the concept of responsibility accounting.

Differences between profit and cash

The profit budget for the new product has been produced on an accruals basis, that is, a sale is recognised when the goods have been delivered to the customer and costs are recognised when the expense has been incurred. The cash budget, in contrast, is a forecast of payments and receipts. We will begin to make sales of our new product in March 2017 but as we extend credit to our customers, we will not receive payment until April 2017 at the earliest. This is why our sales receipts are F\$4,200,000 compared to sales revenue of F\$6,250,000.

Similarly, we have purchased materials to produce the product but as we get credit from our supplier we will not pay for them immediately. However purchases need to happen before production which is why payments to suppliers are in line with material and other costs.

Some profit or loss items are derived from accounting conventions and are not cash flows, for example, the depreciation of non-current assets. The depreciation of machinery used to produce our new product is included in fixed manufacturing overheads but the depreciation is not included in the cash budget. Instead the cash budget would show the payment of the purchase price of the machinery which we will incur prior to the budget period shown.

The research and development cost shown in the profit budget is the amortisation cost of the development expenditure that we had previously capitalised. Whereas, the amount shown in the cash budget is the cash payments we expect to make for further development of the product over the six months period.

SECTION 3

CIMA CODE OF ETHICS

CIMA members and registered students throughout the world have a duty to observe the highest standards of conduct and integrity, and to uphold the good standing and reputation of the profession. They must also refrain from any conduct which might discredit the profession.

The code incorporates five fundamental principles. I have assessed each of these based on the alleged offence:

Integrity means conducting oneself in an honest and truthful manner in all business dealings. To take advantage of insider knowledge is a breach of this since it is an attempt to obtain personal financial reward in a dishonest way.

Objectivity means not allowing conflict of interest to override professional judgement. There is conflict of interest in that the apparent personal and third party gain conflicts with the responsibility to Marici.

Professional competence includes conducting oneself according to the relevant professional standards. Professional standards include not using inside information for personal gain.

Professional behaviour means obeying laws and regulations. In most countries, insider dealing is a criminal offence hence there is a clear breach in this case.

Confidentiality requires that CIMA members respect the confidential nature of information acquired through professional relationships such as past or current employment. CIMA members should not disclose such information unless they have specific permission or a legal or professional duty to do so. They should also never use confidential information for their own or another person's gain.

Business ethics are important for any organisation and our stakeholders expect us to operate to certain ethical standards. A failure such as this would be detrimental to our reputation with stakeholder groups. An ethical framework is part of good corporate governance and suggests a well-run business. Any ethical failure calls into question our corporate governance policy and procedures. Investors may be concerned by this failure and about our approach to risk management. Our employees may be demotivated if they believe that they operate in an environment of poor ethical corporate behaviour.

IAS 38

Accounting Treatment of Research and Development (R&D) Costs

The accounting for R&D is dealt with under IAS 38, Intangible Assets.

Definitions of Research and Development

Research is investigation undertaken to gain new scientific or technical knowledge and understanding.

Development is the application of research findings or other knowledge to plan or design for the production of new or substantially improved processes, products or services before the start of commercial production.

Research expenditure must be written off as an expense to the statement of profit or loss. Development expenditure, which is what we are concerned with, can be capitalised provided it meets all of the criteria explained below.

Capitalisation of development expenditure

Under IAS 38, an intangible asset arising from development must be capitalised if an entity can demonstrate a number of criteria. In respect of this development project all of the following criteria would have been assessed, and at the point that they were all met, further expenditure on the project would have been capitalised. The criteria are:

- The technical feasibility of completing the intangible asset so that it will be available for use or sale. At the point where the knowledge gained from the development project indicated that the new energy storage system was feasible, this criterion would have been met.
- Intention to complete and use or sell the intangible asset. At the point that management had decided to complete the project and to start selling the new system this criterion would have been met.
- Ability to use or sell the intangible asset. We already have an existing market for our current products and the new product is an extension of this.
- Existence of a market or, if to be used internally, the usefulness of the intangible asset. At the point that we had established that there was a market for the new product this criterion would have been met.
- Availability of adequate technical, financial, and other resources to complete the intangible asset. At the point that our budgets showed that we had adequate resources to complete the project this criterion would have been met.
- The cost of the intangible asset can be measured reliably. The costs relating to the new product have been separately recorded.

If any of the recognition criteria are not met then the expenditure must be charged to the statement of profit or loss as incurred. If the recognition criteria have been met, capitalisation must take place, but only those costs incurred from the point that all criteria are met can be capitalised.

Once we recognised that the project met the criteria above, the development expenditure was capitalised and is shown in our statement of financial position.

Treatment of capitalised development expenditure

If development costs have been capitalised, the asset should be amortised over its finite life. Amortisation should begin when the asset is available for use.

The development expenditure that we previously capitalised will be amortised over the life of the product. The amount that you have seen in the budgeted profit figures is the amortisation charge for the six months period.

SECTION 4

CERTIFIED PARTNERSHIP SCHEME

Potential benefits

There are a number of benefits that we could get from operating a certified partnership scheme. The scheme would involve us actively managing the relationship between our company and our installers which has a number of advantages.

It is preferable to work with our installers to add value to the supply chain so that the overall benefits that accrue can be shared amongst all the parties involved. Rather than emphasise price, we should build relationships with the installers in order to jointly manage the entire supply chain better.

Our dependency on these installers is high as there are only a few installers in the industry for this new product. Actively managing our relationship with installers may allow us to gain a relative competitive advantage over rival firms which do not currently operate such a scheme.

Our brand identity is dependent on the perceived quality of our product and this could be compromised should our installers not apply the standard of service we would expect. A certified partnership scheme would enable us to work together with the installers to ensure that the quality standard of the installation meets the same high standard of our product.

Using a certified partnership scheme would enable us to build long term, loyal relationships with the installers. Frequently changing installers would cause increased administrative effort and a lack of coherence in our external dealings.

Relationships based purely on price may destabilise our installers financially making them more vulnerable to going out of business, so potentially jeopardising future business. A certified partnership scheme would help to avoid this happening.

Environmental and Quality KPIs

The following environmental measures would be appropriate:

Packaging material: Tonnes sent to landfill or Tonnes recycled

Our products are delivered to the installers using wooden frames to secure the panel and covered in cardboard and water-proofing material. It would be appropriate to measure what volume in tonnes or as a % of the total is sent to landfill and what volume is recycled.

Distribution vehicles: Fuel usage or Miles travelled or Co2 emissions

Our installers use transport to take the workers and the products to their customers. The amount of fuel used and the emissions from the vehicles would be an important measure. Alternatively the amount of miles travelled would give us an indirect measure of these.

Energy and water usage: Total water usage (in m³) or Fossil fuel energy usage (Kwh)

The use of energy and water at the installer's offices would also be appropriate. We would expect our installers to be using solar power but they may also have a need to use fossil fuels. When fitting the solar panels they will use water to clean the panels and the customer's buildings after installation.

The following quality measures would be appropriate:

Prevention: Training costs (F\$) or Average training expenditure per employee

Prevention is concerned with ensuring that no quality failures arise. A measure for this could be the expenditure on training and development to ensure that installers are working at the highest possible standards in terms of service, safety and reliability.

Internal failure: Cost of rework or Number of rework incidents

Internal failure costs are concerned with the consequences of failure before the product or service has not been handed over to the customer. Damage caused to the panel during the installations which would involve the installer in either replacing or repaired the damaged panel would be an appropriate measure of this.

External failure costs: Cost of dealing with customer complaints or Number of customer complaints

External failure costs are concerned with the consequences of failure after the product or service has been handed over to the customer. This could be measured as the cost of dealing with customer complaints as a result of the solar system not operating correctly or the breakdown of the system. The number of customer complaints would also be an appropriate measure.